

## ABSTRACT

TITLE: Thrombocytopenia, Microangiopathy and End Organ Damage in Snakebites

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### OBJECTIVES:

The study was conducted to determine the prevalence of thrombotic microangiopathy in snakebites and to describe the clinical profile of these patients, with relation to the envenomation syndrome and venom induced consumption coagulopathy (VICC).

### METHODS:

This study was an observational cohort, consisting of a prospective cohort (Recruited from June 2017 to July 2018) and a retrospective cohort (April 2012 to March 2017). All patients above the age of 18 years, presenting with a hemotoxic snake bite, with a platelet count  $<1,50,000/\text{cumm}$  were recruited. Patients were observed both clinically and with appropriate investigations daily till discharge. Additional information for analysis was obtained from the clinical workstation. Descriptive statistics such as mean, standard deviation

were analysed using Kruskal Wallis test across TMA spectrum and lab investigations and outcomes. Categorical variables like envenomation syndrome, Fisher's exact test was used.

## RESULTS:

TMA is a spectrum disorder that ranges from isolated Thrombocytopenia, thrombocytopenia with MAHA, and Thrombocytopenia, MAHA and renal failure(full spectrum TMA disorder). Prevalence of TMA spectrum was 51.35% and full spectrum TMA disorder was 21.6% in the prospective cohort. Majority of hemotoxic snakebites had a Russell's viper like envenomation syndrome (69.4%). More importantly all the patients (30 subjects) who had full spectrum TMA had a Russell's viper like envenomation syndrome. Majority of hemotoxic snakebites presented with VICC (81%). Patient group who did not have VICC, but presented with Thrombocytopenia (19%).

Treatment outcomes were noted to be worse in the TMA spectrum with renal failure, requiring higher doses of ASV with longer hospital/ICU stay, and with 73.3% of these patients requiring dialysis. Hence it is clear that patients who developed a TMA full spectrum disorder have a more severe illness with worse outcomes.